

Serial No.: 10/027,927

Filing Date: 12/22/2001

Attorney Docket No. 100.271US01RCE

Title: ESTABLISHMENT OF AN END TO END VIRTUAL CONNECTION

Amendments to the Claims:

Claim 11 has been amended to better clarify its patentable subject matter. New claims 15-18 have been added. No new matter has been added by this amendment.

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (Original) A method for establishing an end-to-end virtual circuit, the method comprising:
 - establishing a permanent virtual circuit between customer premises equipment and a digital subscriber line access multiplexer;
 - embedding information for a permanent virtual connection between a switch and a remote node in a packet transmitted over a static connection in a network; and
 - establishing a permanent virtual circuit between the switch and the remote node based on the embedded information.
2. (Previously presented) The method of claim 1, wherein embedding information comprises embedding information in a destination address.
3. (Previously presented) The method of claim 2, wherein embedding information comprises embedding port, virtual path identifier (VPI) and virtual channel identifier (VCI) for the permanent virtual circuit between the switch and the remote node in the destination address of the packet transmitted over the static connection.
4. (Previously presented) The method of claim 2, wherein embedding information comprises embedding slot, port, virtual path identifier (VPI) and virtual channel identifier (VCI) for the permanent virtual circuit between the switch and the remote node in the destination address of the packet transmitted over the static connection.

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5. (Previously presented) A digital subscriber line access multiplexer, comprising:
at least one channel card coupled to at least one customer premises equipment over a communication line;
at least one line card, adapted to be coupled to a data network, the line card adapted to provide communication between the at least one customer premises equipment and a remote node coupled to the data network; and
wherein information for a permanent virtual connection between the remote node and a switch of the data network is embedded in a packet transmitted over a static connection in the data network between the at least one line card and the switch.
6. (Original) The digital subscriber line access multiplexer of claim 5, wherein the at least one channel card comprises a channel card that supports one of asymmetric digital subscriber line (ADSL), symmetric digital subscriber line (SDSL, G.SHDSL), high bit rate digital subscriber line (HDSL), very high bit rate digital subscriber line (VHDSL), and rate adaptive digital subscriber line (RDSL) service.
7. (Original) The digital subscriber line access multiplexer of claim 5, wherein the information comprises information embedded in a destination address of the packet.
8. (Previously presented) The method of claim 7, wherein the information comprises port, virtual path identifier (VPI) and virtual channel identifier (VCI) for the permanent virtual circuit between the switch and the remote node embedded in the destination address of the packet transmitted over the static connection.
9. (Previously presented) The method of claim 7, wherein the information comprises slot, port, virtual path identifier (VPI) and virtual channel identifier (VCI) for the permanent virtual circuit connection between the switch and the remote node embedded in the destination address of the packet transmitted over the static connection.

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10. (Original) A method for establishing an end-to-end virtual circuit, the method comprising:

establishing a permanent virtual circuit between a digital subscriber line modem and a digital subscriber line access multiplexer;

embedding at least slot, port, VPI and VCI information for a permanent virtual connection between a switch and a remote node in a packet;

transmitting the packet over a static connection in a data network between the digital subscriber line access multiplexer and the switch; and

establishing a permanent virtual circuit between the switch and the remote node based on the at least slot, port, VPI and VCI information to complete the end-to-end connection.

11. (Currently Amended) A communications system, comprising:

a data network;

a switch of the data network;

a digital subscriber line access multiplexer, adapted to be coupled to the data network and the switch of the data network, comprising:

at least one channel card coupled to at least one customer premises equipment over a communication line;

at least one line card, adapted to be coupled to a data network, the line card adapted to provide communication between the at least one customer premises equipment and a remote node coupled to the data network; and

wherein a permanent virtual connection exists between the remote node and the switch of the data network ~~at least one customer premises equipment~~ based on information embedded in a destination address of a packet transmitted over a static connection between the switch of the data network and the digital subscriber line access multiplexer ~~remote node~~.

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12. (Previously presented) The system of claim 11, wherein the at least one channel card comprises a channel card that supports one of asymmetric digital subscriber line (ADSL), symmetric digital subscriber line (SDSL, G.SHDSL), high bit rate digital subscriber line (HDSL), very high bit rate digital subscriber line (VHDSL), and rate adaptive digital subscriber line (RDSL) service.

13. (Previously presented) The system of claim 11, wherein the switch of the data network and the remote node comprise a permanent virtual circuit.

14. (Previously presented) The system of claim 13, wherein the information embedded in the destination address of the packet comprises slot, port, virtual path identifier (VPI) and virtual channel identifier (VCI) information for the permanent virtual connection between the switch and the remote node.

15. (New) A method for establishing an end-to-end virtual circuit, the method comprising:
 establishing a permanent virtual circuit between customer premises equipment and a digital subscriber line access multiplexer;
 embedding information for a permanent virtual connection between a switch and a remote node into a data packet;
 delivering the data packet over a static connection in a network to the switch; and
 establishing a permanent virtual circuit between the switch and the remote node based on the information for a permanent virtual connection embedded in the data packet.

16. (New) The method of claim 15, wherein embedding information comprises embedding information for the permanent virtual connection between the switch and the remote node into a destination address of the data packet.

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17. (New) The method of claim 15, wherein embedding information for the permanent virtual connection between the switch and the remote node into the data packet comprises embedding port information, virtual path identifier (VPI) information, and virtual channel identifier (VCI) information for the permanent virtual circuit between the switch and the remote node into the data packet.

18. (New) The method of claim 15, wherein delivering the data packet further comprises delivering the data packet from the digital subscriber line access multiplexer to the switch over the static connection in the network.